

## Montana Board of Oil and Gas Conservation Environmental Assessment

**Operator:** EOG Resources, Inc.  
**Well Name/Number:** Highline 1-3328H  
**Location:** SW SE Section 33 T29N R59E  
**County:** Roosevelt, MT; **Field (or Wildcat)** Wildcat

### Air Quality

(possible concerns)

Long drilling time: No, 30 to 40 days drilling time.

Unusually deep drilling (high horsepower rig): No, triple derrick rig 1000 HP to drill a single lateral Bakken Formation horizontal well test, 19,870' MD/10,494' TVD.

Possible H<sub>2</sub>S gas production: Slight

In/near Class I air quality area: No Class I air quality area.

Air quality permit for flaring/venting (if productive): Yes, DEQ air quality permit required under rule 75-2-211.

Mitigation:

☒ Air quality permit (AQB review)

☒ Gas plants/pipelines available for sour gas

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Gas pipeline system in the area to take associated gas.

### Water Quality

(possible concerns)

Salt/oil based mud: Yes to intermediate casing string hole to be drilled with oil based invert drilling fluids. Horizontal laterals will be drilled with oil based invert drilling fluid. Surface casing hole to be drilled with freshwater and freshwater mud.

High water table: No high water table anticipated.

Surface drainage leads to live water: Yes, closest drainage is an unnamed ephemeral tributary drainage to Red Bank Creek, about 3/8 of a mile south and 1/4 of a mile to the northwest from this location. Within this drainage are stock ponds.

Water well contamination: No, closest water wells are about 1 mile or further away in any direction from this location. Surface casing will be drilled with freshwater, casing set to 2056' and cemented back to surface.

Porous/permeable soils: No, sandy silty clay soils.

Class I stream drainage No, Class I stream drainages.

Mitigation:

☒ Lined reserve pit

☒ Adequate surface casing

☐ Berms/dykes, re-routed drainage

☐ Closed mud system

☐ Off-site disposal of solids/liquids (in approved facility)

☐ Other: \_\_\_\_\_

Comments: 2056' surface casing well below freshwater zones in adjacent water wells. Also, covering Base of the Fox Hills aquifer. Surface hole will be drilled with freshwater and freshwater muds to 2056'+. Steel surface casing will be run and cemented to surface from 2056'.

### Soils/Vegetation/Land Use

(possible concerns)

Steam crossings: None anticipated.

High erosion potential: Possible, location will require a moderate cut, up to 15.6' and moderate fill, up to 14.1', required.

Loss of soil productivity: Slight, location to be restored after drilling well if well is nonproductive. If productive unused portion of wellsite will be reclaimed.

Unusually large wellsite: No, location is a large wellsite, 330' X 450' in size.

Damage to improvements: Slight, surface use appears to be grassland.

Conflict with existing land use/values: Slight

Mitigation

☐ Avoid improvements (topographic tolerance)

☐ Exception location requested

☒ Stockpile topsoil

☐ Stream Crossing Permit (other agency review)

☒ Reclaim unused part of wellsite if productive

☐ Special construction methods to enhance reclamation

☒ Other: Requires DEQ General Permit for Storm Water Discharge Associated with

Construction Activity, under ARM 17.30.1102(28).

Comments: Access will be over existing county gravel roads and existing farm road. About 1397' of new access road will be built off the existing county road into this location. Oil based drilling fluids will be recycled. Freshwater surface hole cuttings will be buried on site. Oil based drill cuttings will be buried in the lined reserve pit. Completion pit fluids will be hauled to a permitted Class II saltwater disposal. Pit will be backfilled when dry. No concerns.

### **Health Hazards/Noise**

(possible concerns)

Proximity to public facilities/residences: Residences about ¾ of a mile to the east from this location.

Possibility of H2S: Slight to none.

Size of rig/length of drilling time: Triple drilling rig 30 to 40 days drilling time.

Mitigation:

☒ Proper BOP equipment

☐ Topographic sound barriers

☐ H2S contingency and/or evacuation plan

☐ Special equipment/procedures requirements

☐ Other: \_\_\_\_\_

Comments: Adequate surface casing cemented to surface with working BOP stack should mitigate any problems. Noise should not be a problems, sufficient distance from residence to rig should mitigate this.

### **Wildlife/recreation**

(possible concerns)

Proximity to sensitive wildlife areas (DFWP identified): None identified in the area.

Proximity to recreation sites: None identified in the area.

Creation of new access to wildlife habitat: None

Conflict with game range/refuge management: None

Threatened or endangered Species: Threatened or endangered species listed in Roosevelt county by USFW service are Pallid Sturgeon, Piping Plover, Interior Lease Tern and Whooping Crane.

Mitigation:

☐ Avoidance (topographic tolerance/exception)

☒ Other agency review (DFWP, federal agencies, DSL)

☐ Screening/fencing of pits, drillsite

☐ Other: \_\_\_\_\_

Comments: State of Montana Trust Lands surface land. Trust Lands will do surface EA.

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### Historical/Cultural/Paleontological

(possible concerns)

Proximity to known sites None identified.

Mitigation

☐ avoidance (topographic tolerance, location exception)

☐ other agency review (SHPO, DSL, federal agencies)

☐ Other: \_\_\_\_\_

Comments: State of Montana Trust Lands surface land. Trust Lands will do surface EA.

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### Social/Economic

(possible concerns)

☐ Substantial effect on tax base

☐ Create demand for new governmental services

☐ Population increase or relocation

Comments: Wildcat Bakken Formation, single lateral horizontal oil well test. Currently, no production in this section. No concerns.

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### Remarks or Special Concerns for this site

Drill a wildcat single lateral Bakken Formation horizontal well test, 19,870' MD/10,494' TVD.

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### Summary: Evaluation of Impacts and Cumulative effects

No long term impacts expected, only some short term impacts will occur.

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I conclude that the approval of the subject Notice of Intent to Drill (does/**does not**) constitute a major action of state government significantly affecting the quality of the human environment, and (does/**does not**) require the preparation of an environmental impact statement.

Prepared by (BOGC): /s/Steven Sasaki

(title:) Chief Field Inspector

Date: July 21, 2010

Other Persons Contacted:

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(Name and Agency)

Montana Bureau of Mines and Geology, Groundwater Information Center website.

(subject discussed)

Water wells in Roosevelt County

(date)

July 21, 2010

US Fish and Wildlife, Region 6 website

(Name and Agency)

ENDANGERED, THREATENED, PROPOSED AND CANDIDATE SPECIES MONTANA  
COUNTIES, Roosevelt County

(subject discussed)

July 21, 2010\_\_\_\_\_

(date)

If location was inspected before permit approval:

Inspection date: \_\_\_\_\_

Inspector: \_\_\_\_\_

Others present during inspection: \_\_\_\_\_